

Application No.: 10//18,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 1 OF

REPLACEMENT SHEET 1 OF 39

999 38 8 9 37 250 / 246 10 20 34 98 99 -100 30 31 32-

FIG. 1

Application No.: 10/718,248 Filing Date: November 20, 2003

Title: Apparatus and Method for Closed-Loop Intracranial Stimulation for Optimal Control of Neurological Disease

Inventor(s): Daniel John DiLorenzo

Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 2 OF 39

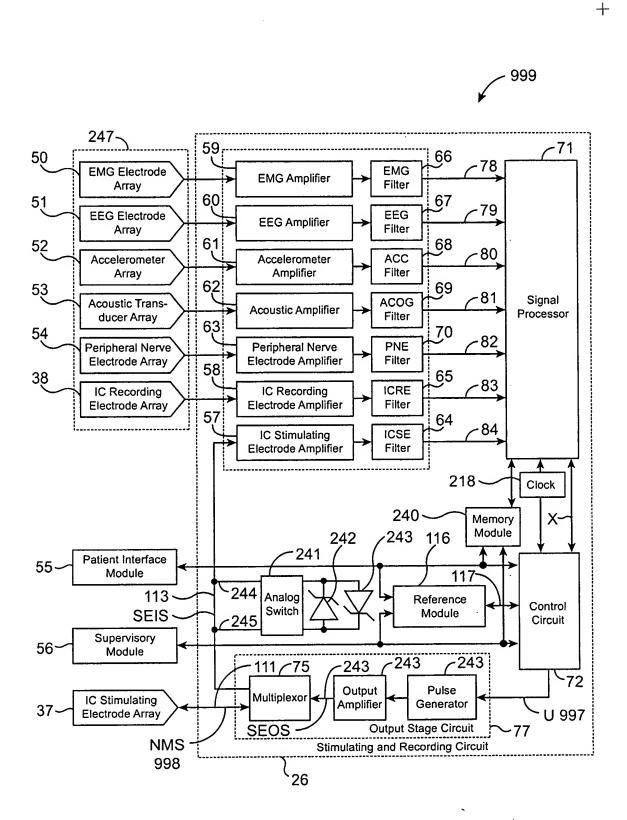


FIG. 2

Application No.: 10/718,248 Filing Date: November 20, 2003 Title: Apparatus and Method for Closed-Loop Intracranial

Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease

Inventor(s): Daniel John DiLorenzo

Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 3 OF 39

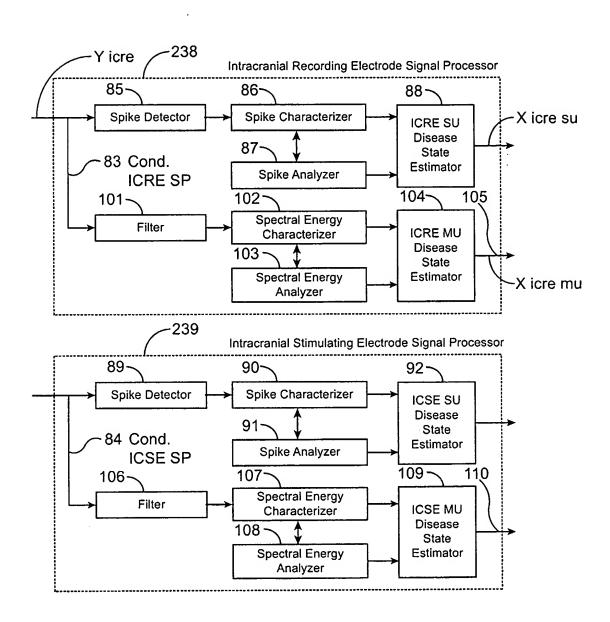


FIG. 3

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 4 OR

REPLACEMENT SHEET 4 OF 39

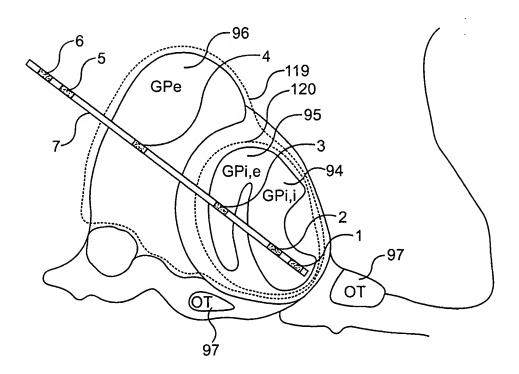
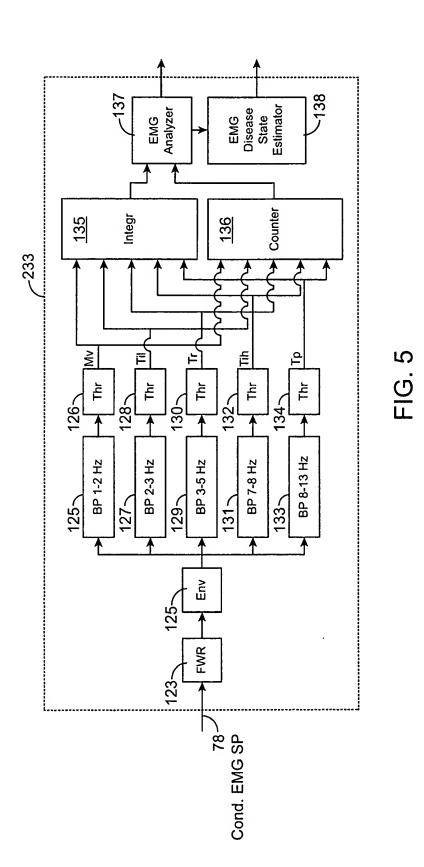


FIG. 4

Application No.: 10//18,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 5 Of

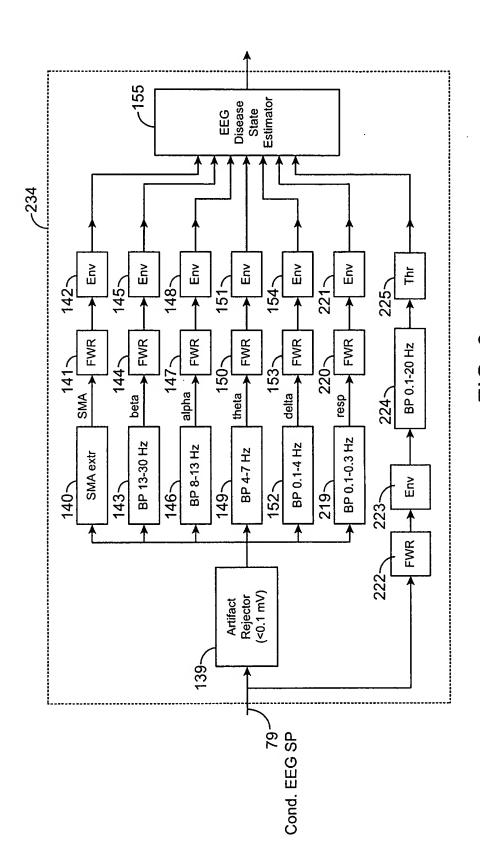
REPLACEMENT SHEET 5 OF 39



Filing Date: November 20, 2003

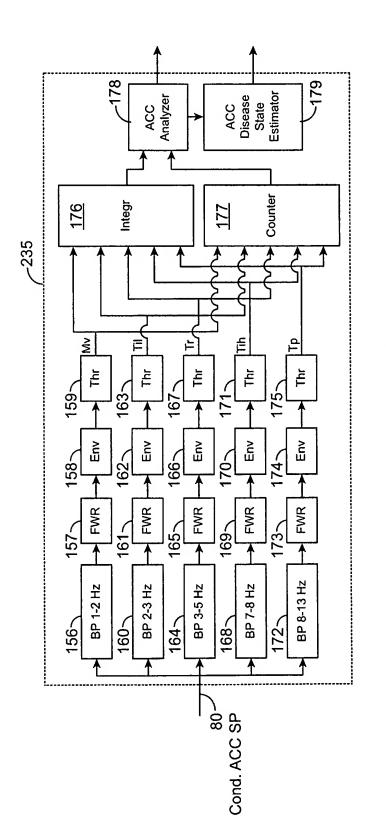
Application No.: 10/718,248 Filing Date: No.: 10/718,248 Filing Date: No.: Apparatus and Method for Closed-Loop Intracranial Stimulation for Optimal Control of Neurological Disease Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENTAL REPLACEMENTAR

REPLACEMENT SHEET 6 OF 39



Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 7 Ol

REPLACEMENT SHEET 7 OF 39



Filing Date: November 20, 2003

Application No.: 10/718,248 Filing Date: N
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease

Inventor(s): Daniel John DiLorenzo

REPLACEMENT SHEET 8 OF 39 Docket No.: 10003-704.502 / BNC 1.10US

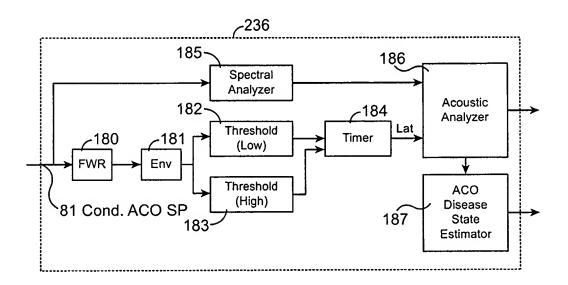


FIG. 8

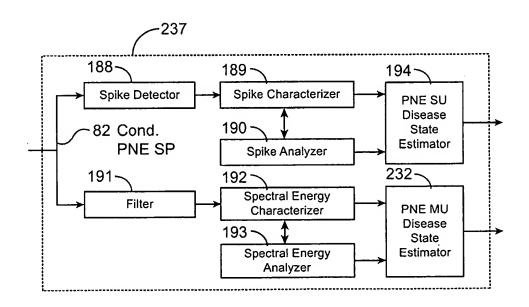


FIG. 9

Application No.: 10/718,248 Filing Dat Title: Apparatus and Method for Closed-Loop Intracranial Filing Date: November 20, 2003

Stimulation for Optimal Control of Neurological Disease

Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 9 OF 39

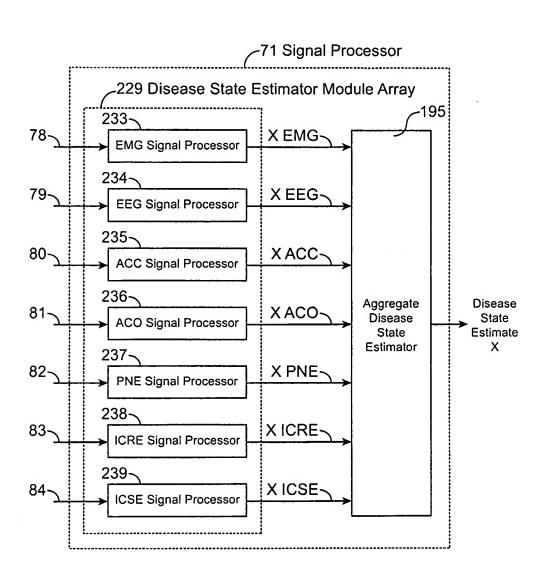
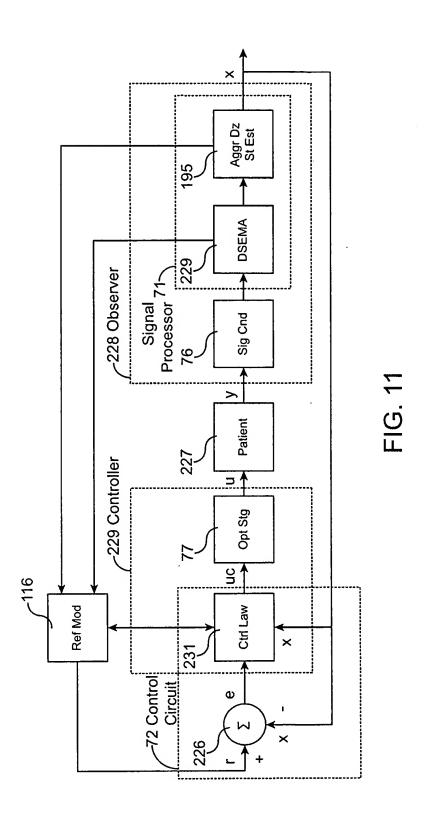


FIG. 10

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 10 O

REPLACEMENT SHEET 10 OF 39



Filing Date: November 20, 2003

Application No.: 10/718,248 Filing Date: No.
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo

Docket No.: 10003-704.502 / BNC 1.10US **REPLACEMENT SHEET 11 OF 39**

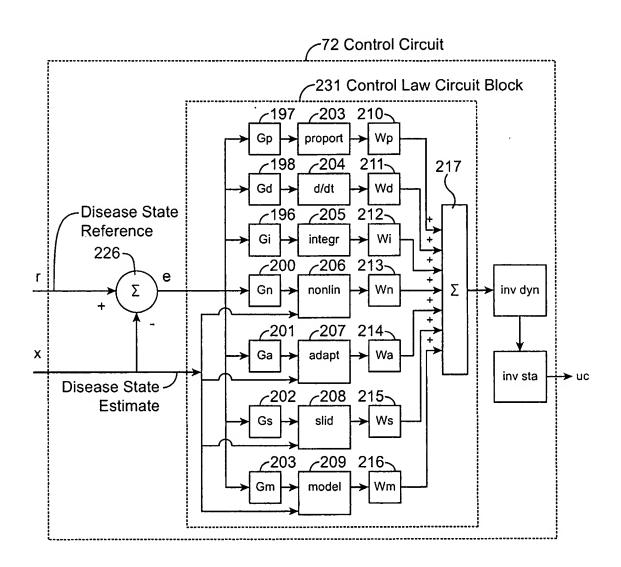


FIG. 12

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 12 Control of Neurological Disease

REPLACEMENT SHEET 12 OF 39

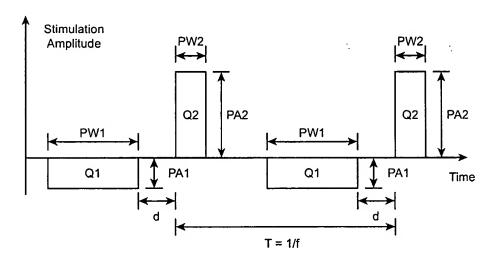


FIG. 13

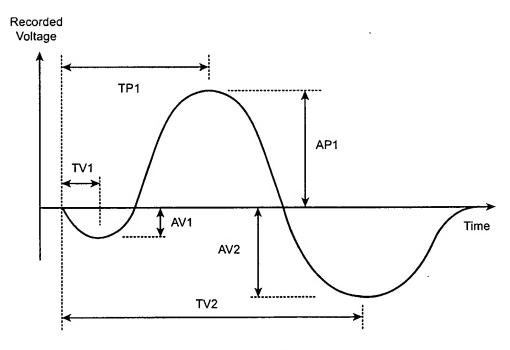


FIG. 14

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 13 C

REPLACEMENT SHEET 13 OF 39

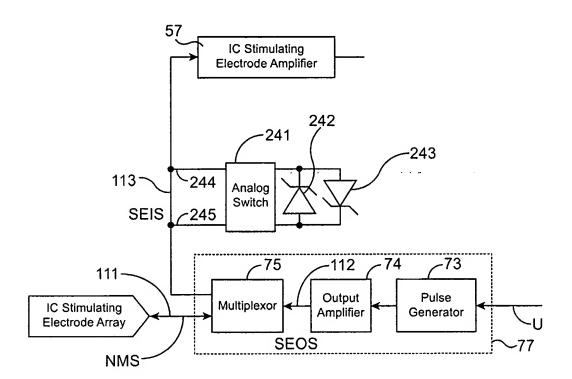


FIG. 15

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 14 0

REPLACEMENT SHEET 14 OF 39

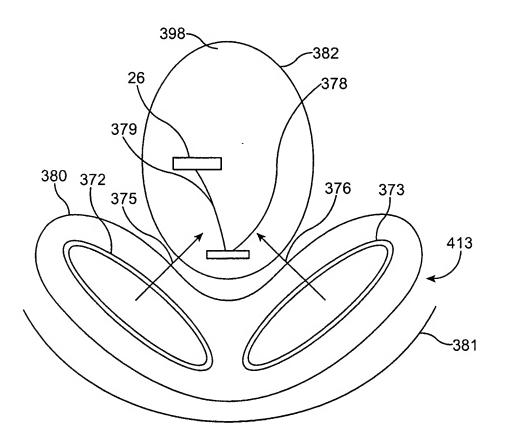


FIG. 16

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 15 0

REPLACEMENT SHEET 15 OF 39

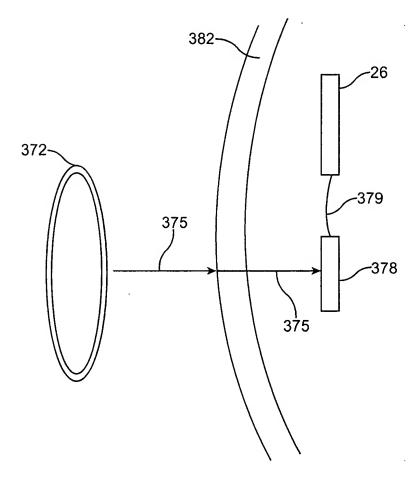


FIG. 17

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 16 O

REPLACEMENT SHEET 16 OF 39

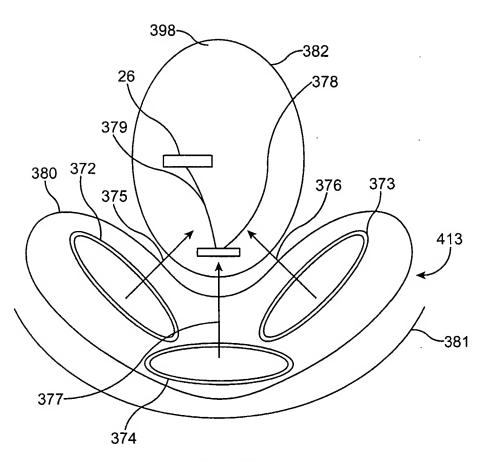


FIG. 18

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 17 C

REPLACEMENT SHEET 17 OF 39

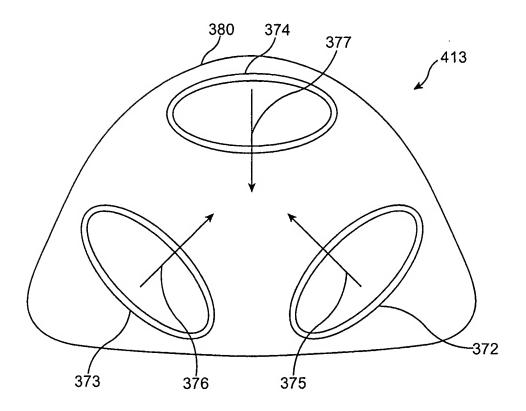


FIG. 19

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 18 0

REPLACEMENT SHEET 18 OF 39

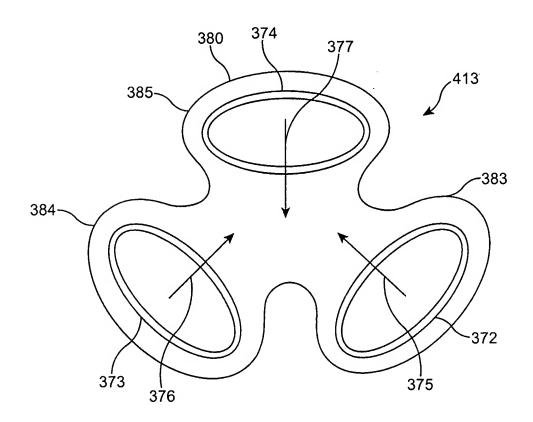


FIG. 20

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 19 C

REPLACEMENT SHEET 19 OF 39

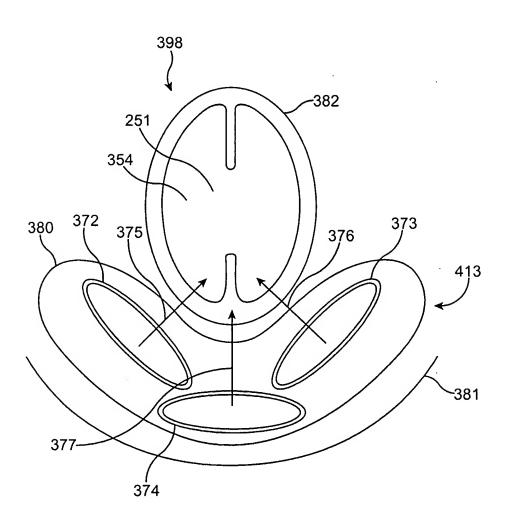


FIG. 21

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease

Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US

REPLACEMENT SHEET 20 OF 39

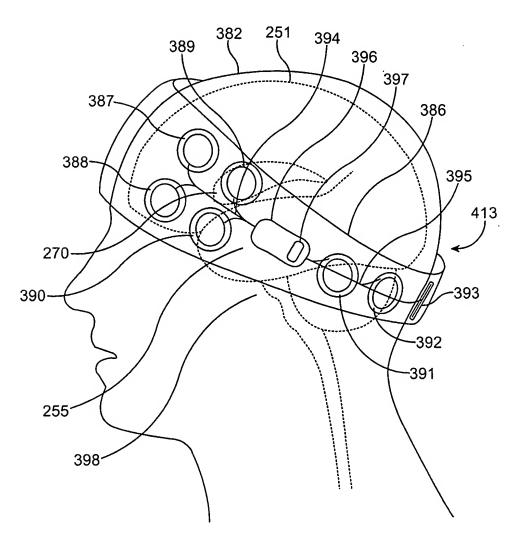


FIG. 22

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 21 C

REPLACEMENT SHEET 21 OF 39

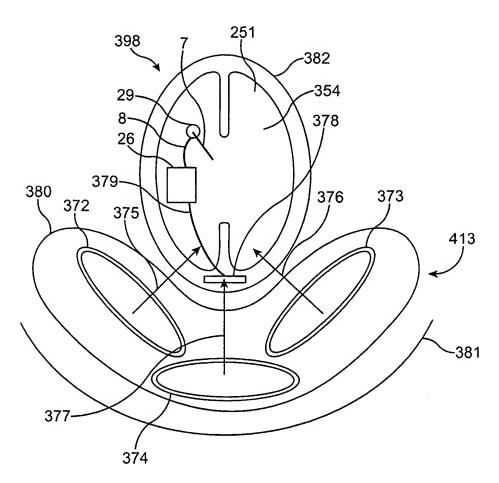


FIG. 23

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 22 0

REPLACEMENT SHEET 22 OF 39

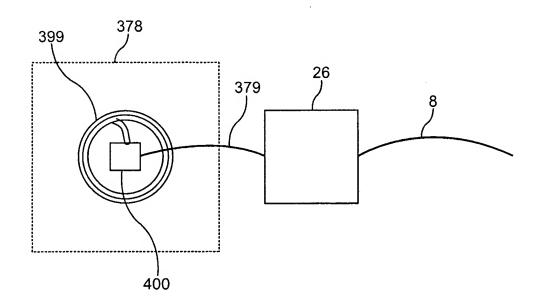


FIG. 24

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 23 O

REPLACEMENT SHEET 23 OF 39

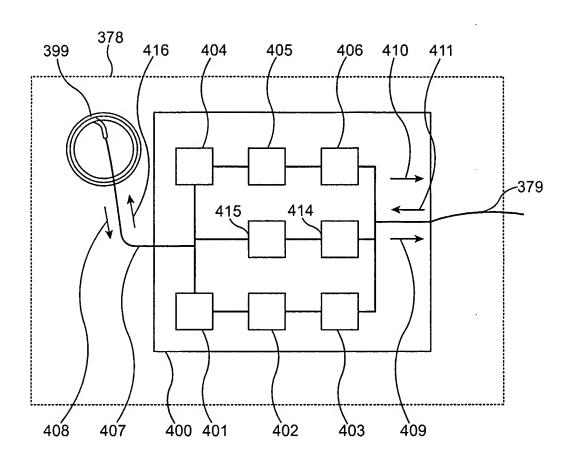
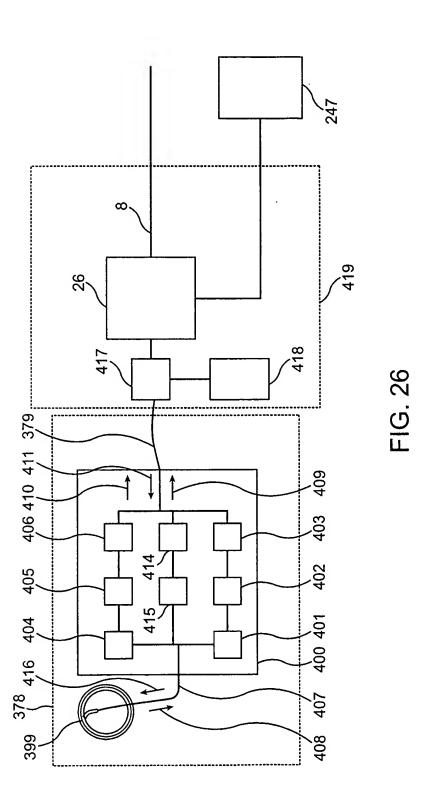


FIG. 25

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 24 0

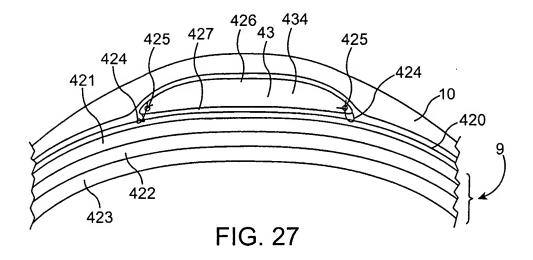
REPLACEMENT SHEET 24 OF 39



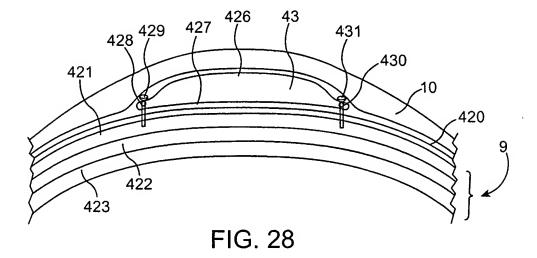
+

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 25 C

REPLACEMENT SHEET 25 OF 39

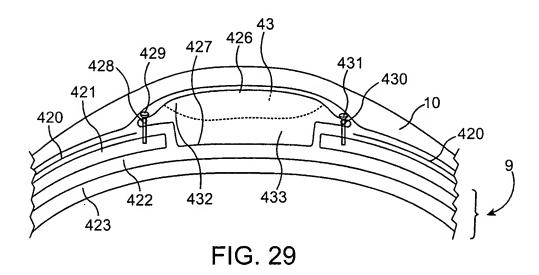


Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 26 C **REPLACEMENT SHEET 26 OF 39**



Application No.: 10//18,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 27 O

REPLACEMENT SHEET 27 OF 39



Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 28 O **REPLACEMENT SHEET 28 OF 39**

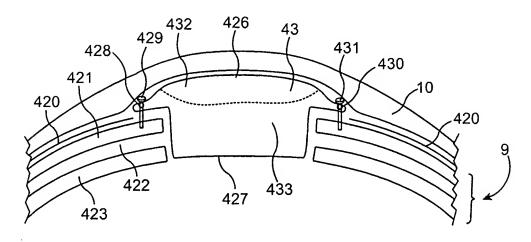


FIG. 30

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 29 C

REPLACEMENT SHEET 29 OF 39

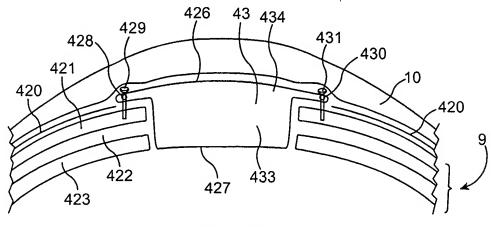


FIG. 31

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 30 O

REPLACEMENT SHEET 30 OF 39

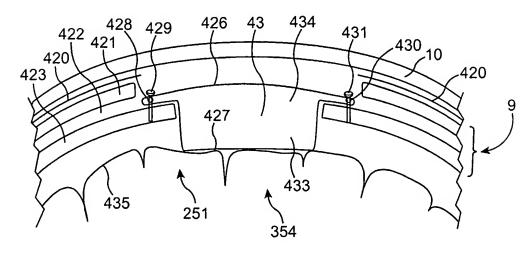


FIG. 32

Application No.: 10/118,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 31 C

REPLACEMENT SHEET 31 OF 39

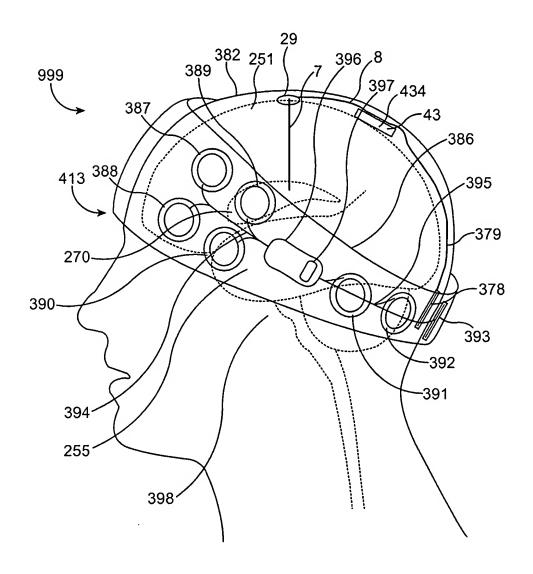


FIG. 33

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 32 O

REPLACEMENT SHEET 32 OF 39

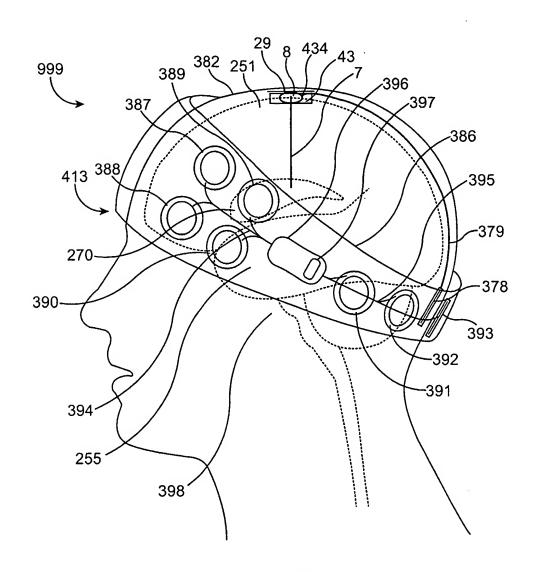


FIG. 34

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 33 O

REPLACEMENT SHEET 33 OF 39

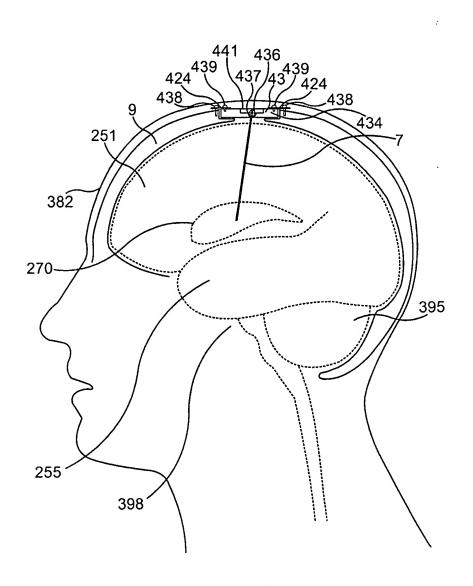


FIG. 35

Filing Date: November 20, 2003

Application No.: 10/718,248 Filing Date: No.: Title: Apparatus and Method for Closed-Loop Intracranial Stimulation for Optimal Control of Neurological Disease Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEME

REPLACEMENT SHEET 34 OF 39



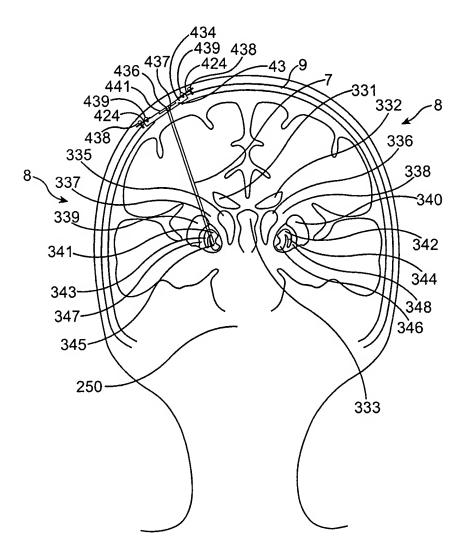


FIG. 36

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 35 O

REPLACEMENT SHEET 35 OF 39

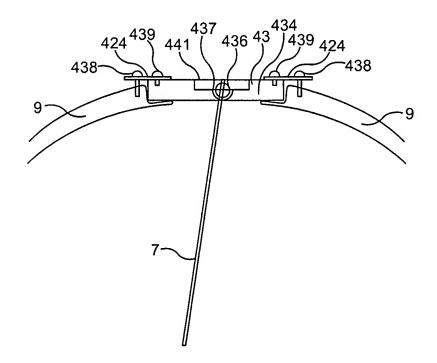


FIG. 37

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 36 O

REPLACEMENT SHEET 36 OF 39



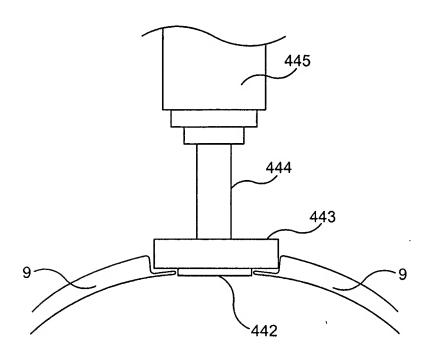


FIG. 38

Application No.: 10//18,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 37 O

REPLACEMENT SHEET 37 OF 39

+

447-443 501 446 442 501

FIG. 39

Application No.: 10/718,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 38 O

REPLACEMENT SHEET 38 OF 39



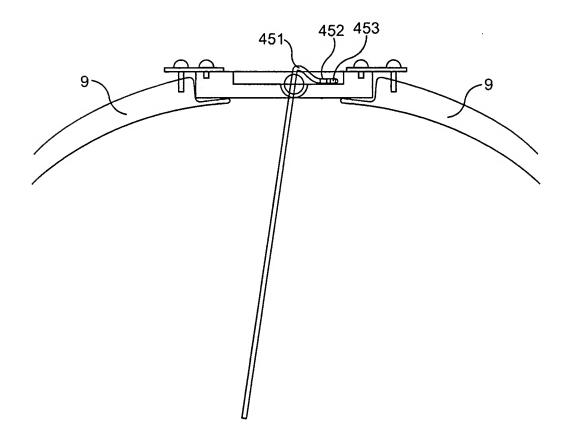


FIG. 40

Application No.: 10//18,248 Filing Date: November 20, 2003
Title: Apparatus and Method for Closed-Loop Intracranial
Stimulation for Optimal Control of Neurological Disease
Inventor(s): Daniel John DiLorenzo
Docket No.: 10003-704.502 / BNC 1.10US REPLACEMENT SHEET 39 C

REPLACEMENT SHEET 39 OF 39

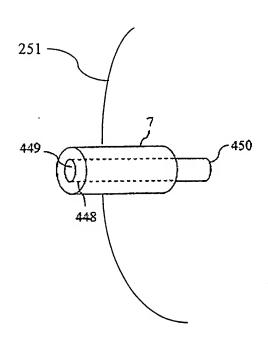


FIG. 41